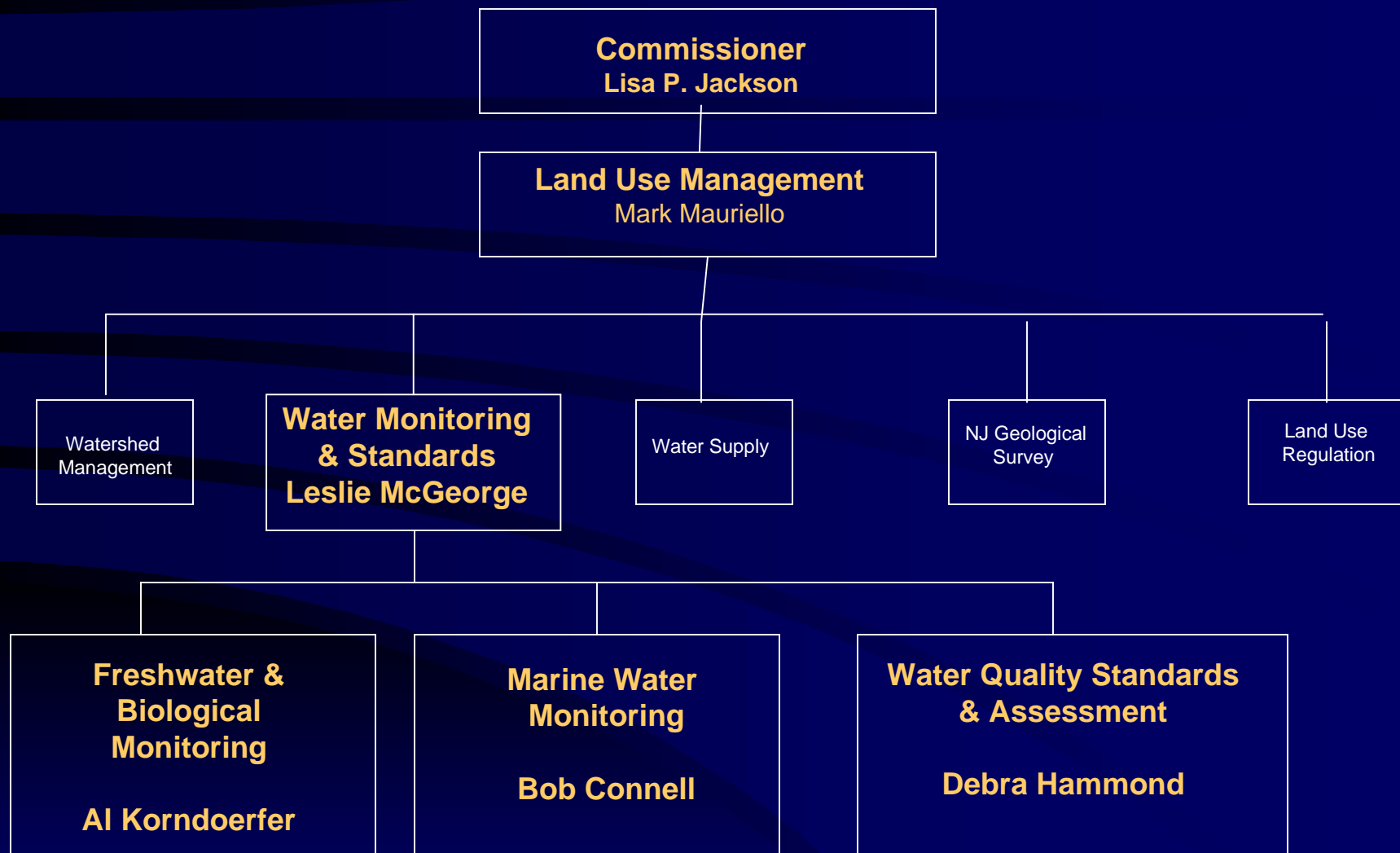


Water Monitoring and Standards

Information Session

May 4, 2006

Water Monitoring in NJDEP



Water Resource Management: Impaired Waters



* Sublist 5 of Integrated List of Waterbodies

NJ Water Monitoring Council

- **Formed:** October 2003
- **30 Members**
- **15 Organizations**

**Enhance Communication,
Coordination & Collaboration**

www.nj.gov/dep/wmm/wmcchome.html



Purpose of Today's Meeting

- 1Public Information Session (not a public hearing)
- 1Inform attendees on the changes to the Assessment Methodology
- 1Provide an overview of Draft 2006 List
- 1Provide an opportunity for questions
- 1Comments on the Sublist 5 / 303(d) should be submitted by May 31, 2006

Integrated Listing Process

CWA - Section 305(b)

- | Required every 2 years
- | State-wide water quality status
- | Water quality trends
- | Causes and sources of nonattainment
- | Actions needed to improve water quality
- | Estimation of the cost of such actions

CWA - Section 303(d)

- ┆ Identify specific waterbodies and stream miles not meeting uses
- ┆ Identify pollutants exceeding standards and requiring TMDLs
- ┆ Schedule for developing TMDLs
- ┆ Public Participation required
- ┆ Use all available data

Integrated Listing Approach

- ┆ Used the same data
- ┆ Data assessed once in the same manner
- ┆ Avoids conflicting conclusions in 305(b) vs. 303(d)
- ┆ Formalized the use of Assessment Methods
- ┆ Expanded public participation
- ┆ Encouraged use of all readily available data
- ┆ Both CWA requirements satisfied with one report

Integrated Waterbody List Components

- Methods Document
- Complete assessment - all waterbodies on one of five sublists
- Sublist 5 (303(d) List) list pollutant impairment
- Two year TMDL schedule
- Monitoring Plan
- The end result complete assessment of all waters

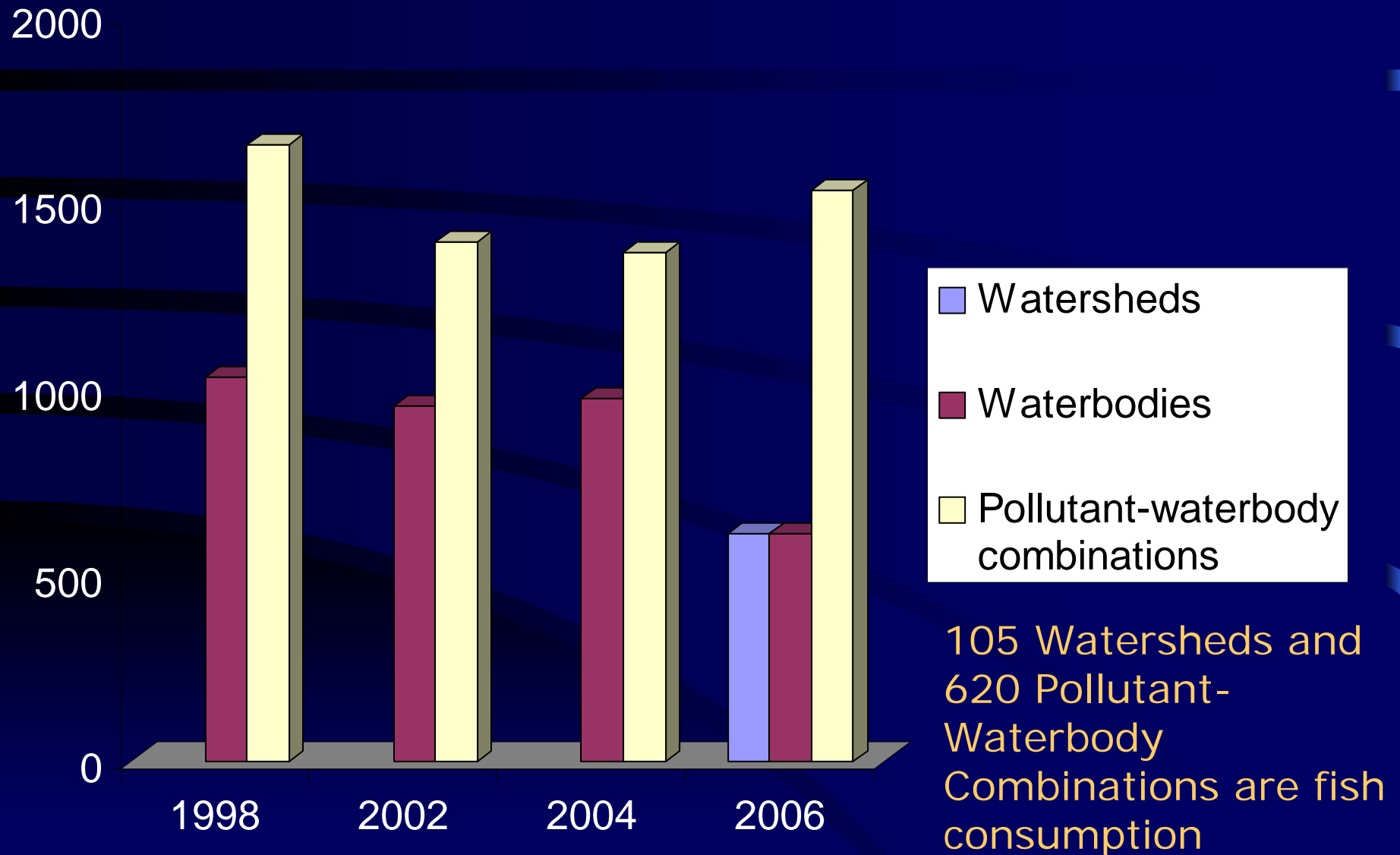
2006 Enhancements

- ┆ Waterbodies based on subwatersheds
- ┆ Subwatersheds are HUC 14s
- ┆ Stable number of waterbodies to be assessed less than 1000
- ┆ Previously assessed more than 6000 waterbodies
- ┆ Evaluated sampling station locations and assigned to one or more HUCs
- ┆ Assessment based on all stations assigned to the HUC

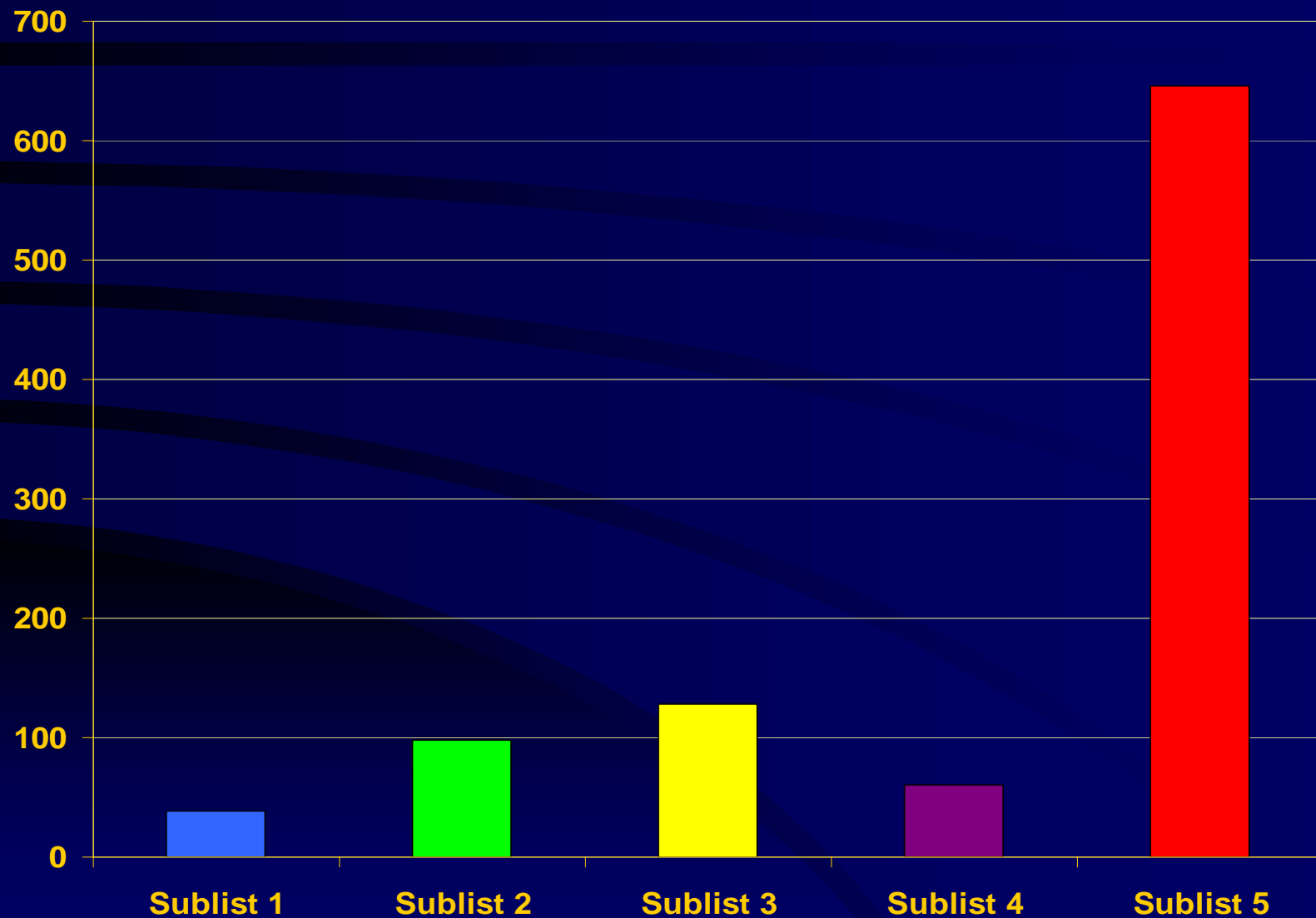
2006 Enhancements

- 1 “Macroinvertebrates” no longer listed as pollutant on Sublist 5
 - If aquatic life pollutant already listed then macroinvertebrates delisted
 - If not - then listed for “pollutant unknown”
- 1 Natural conditions considered before listing
- 1 Minimum suite of pollutants necessary for full attainment

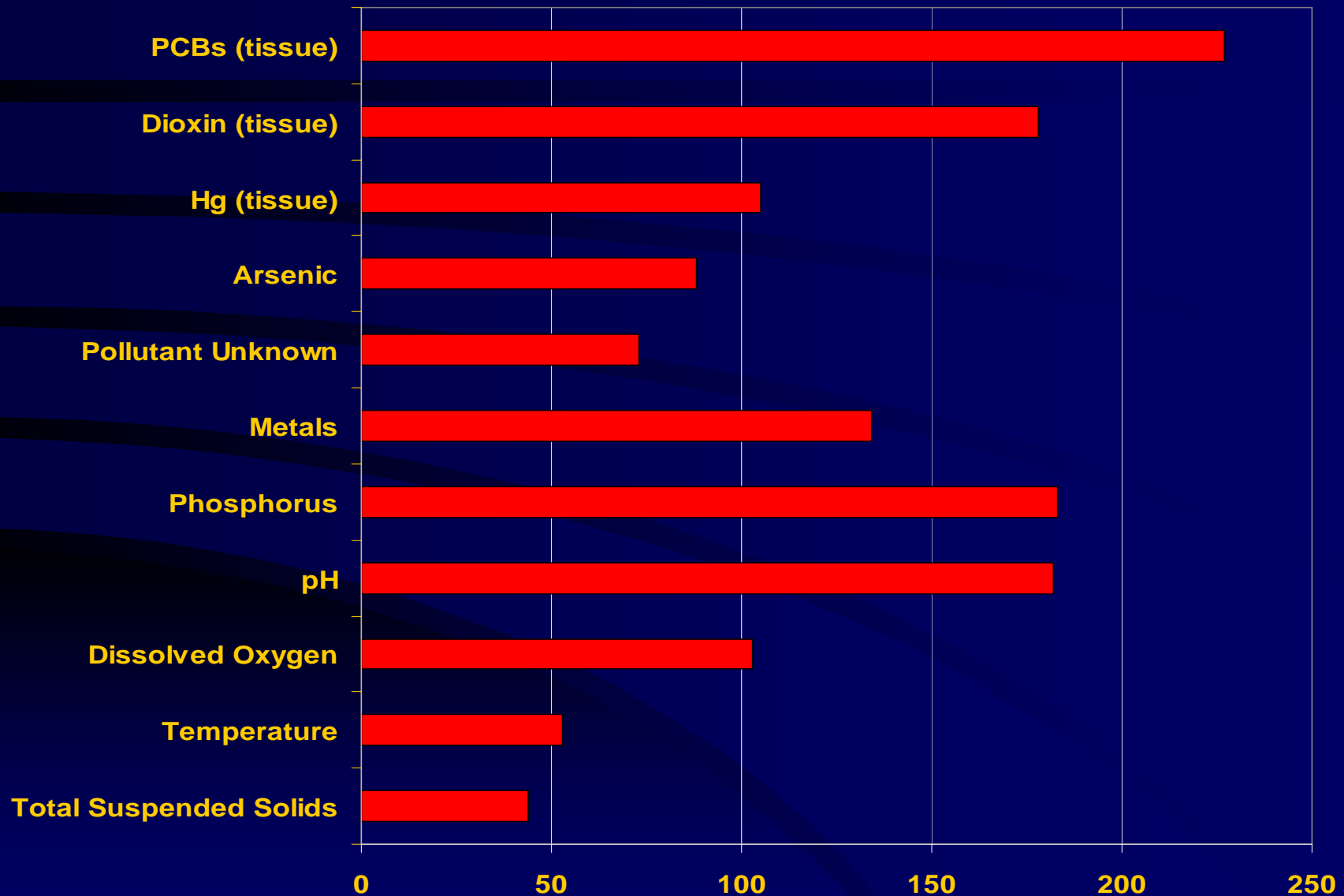
Historical View of Sublist 5



Overall Assessment



2006 Top Impairments



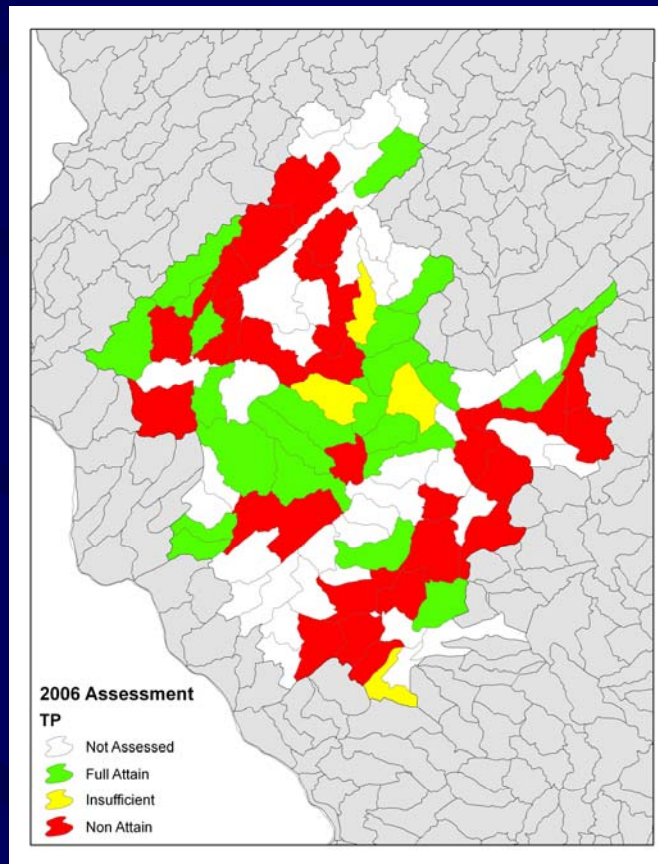
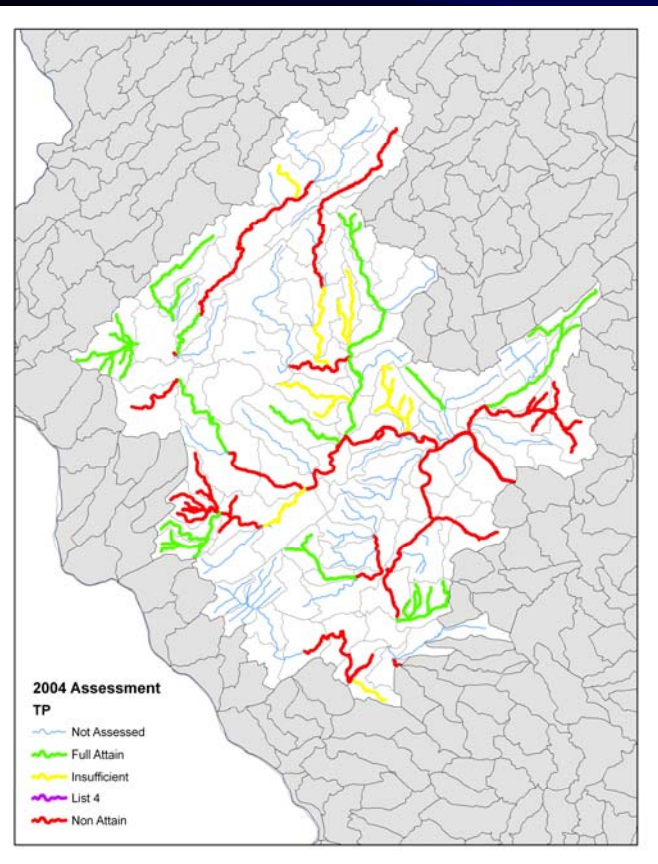
Phosphorus

Miles Assessed 2004 = 343

Miles Assessed 2006 = 1410

Miles Impaired in 2004 = 163

Miles Impaired in 2006 = 258



2006 Assessment Methods

Data Requirements

- 1 Suite of parameters required for each use assessment
- 1 Minimum eight water chemistry samples over five years
- 1 If two violations of the SWQS or 1 and previously listed then evaluate:
 - Frequency of violations, age of data, type of monitoring, severity of exceedences, environmental conditions, other parameters, other stations.
- 1 Can list as impaired with less

Data used for 2006

High Quality Data

State/Federal Agencies: DEP, USGS, DRBC,
Pinelands Commission, Hackensack
Meadowlands, IEC

Local Government: County Health
Departments, Municipalities

Others: NJPDES Dischargers, Volunteer
Groups, Watershed Associations, Water
Utilities

Designated Uses

1Aquatic Life (General) - All Waters

1Aquatic Life (Trout) – FW1&2, PL

1Primary Contact Recreation - (FW1 &2, PL, SC, SE1)

1Secondary Contact Recreation - (All Waters)

1Drinking Water - FW2, PL

1Agriculture Water Supply - FW2, PL,

1Industrial Water Supply - FW2

1Fish Consumption - All Waters

1Shellfish Harvest - SC, SE1

1Note: All Waters = FW1&2, PL, SC, SE1,2,&3

Drinking Water Use

- ┌ Minimum required Nitrate
- ┌ Additional Pollutants when available
 - Metals, toxics, TDS, Chloride,
 - Source water restrictions
- ┌ If Nitrate meets and no other violations - Full Attainment
- ┌ If any Human Health criteria violation Non attainment



Ag and Industrial Uses



If Drinking Use met
than both Ag and
Industrial are met

If Drinking Water
Use is not met for
Human health
toxic,

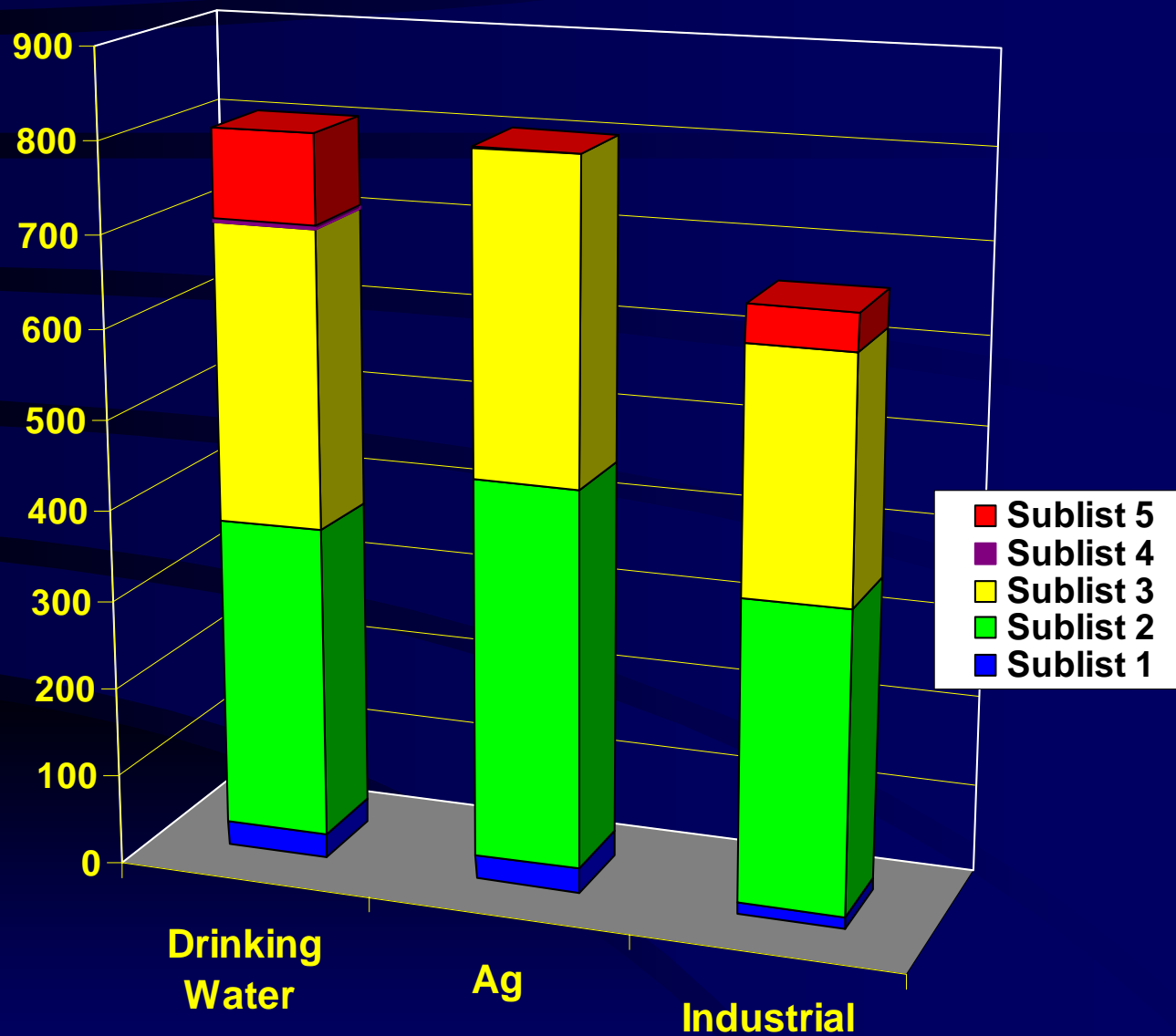
Ag use:

$TDS > 2000$

Industrial Use:

$pH > 5$ or < 9

Water Use Assessment Status



Recreation

Primary Contact - Full body
SE1/SC - Enterococcus or
beach closings

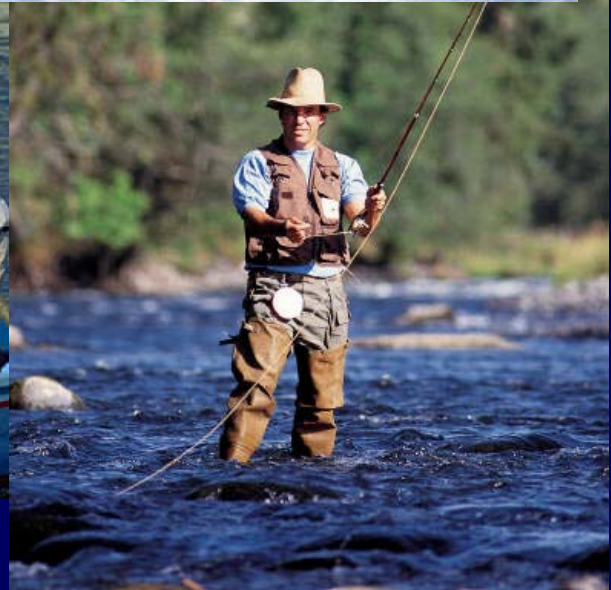
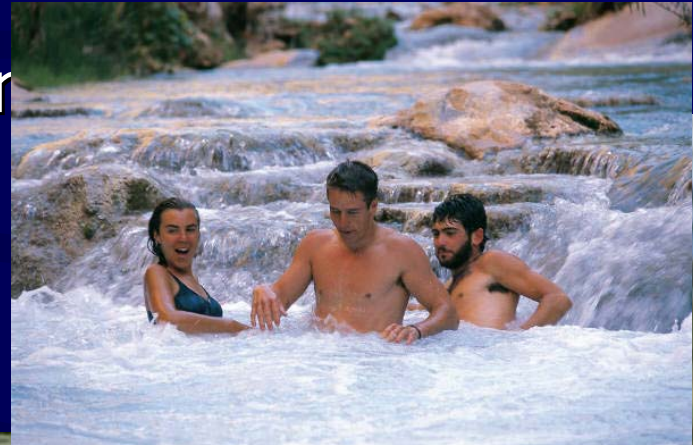
FW2 - E. coli

Secondary Contact

If primary contact meets,
than secondary meets

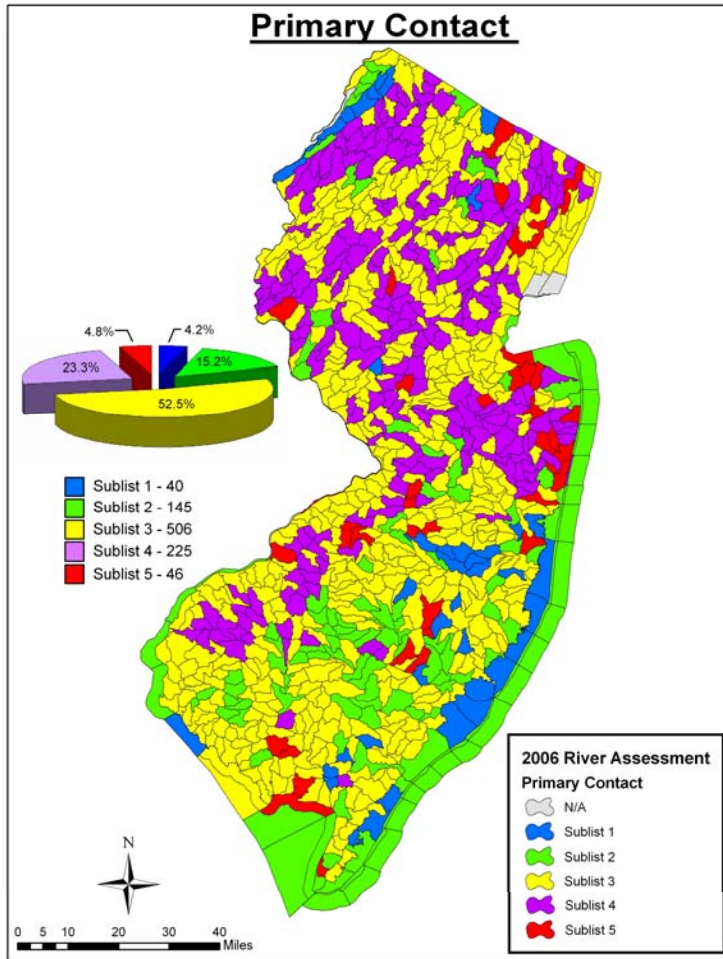
SE2 and SE3 - fecal
coliform

If a TMDL has been
completed - Sublist 4

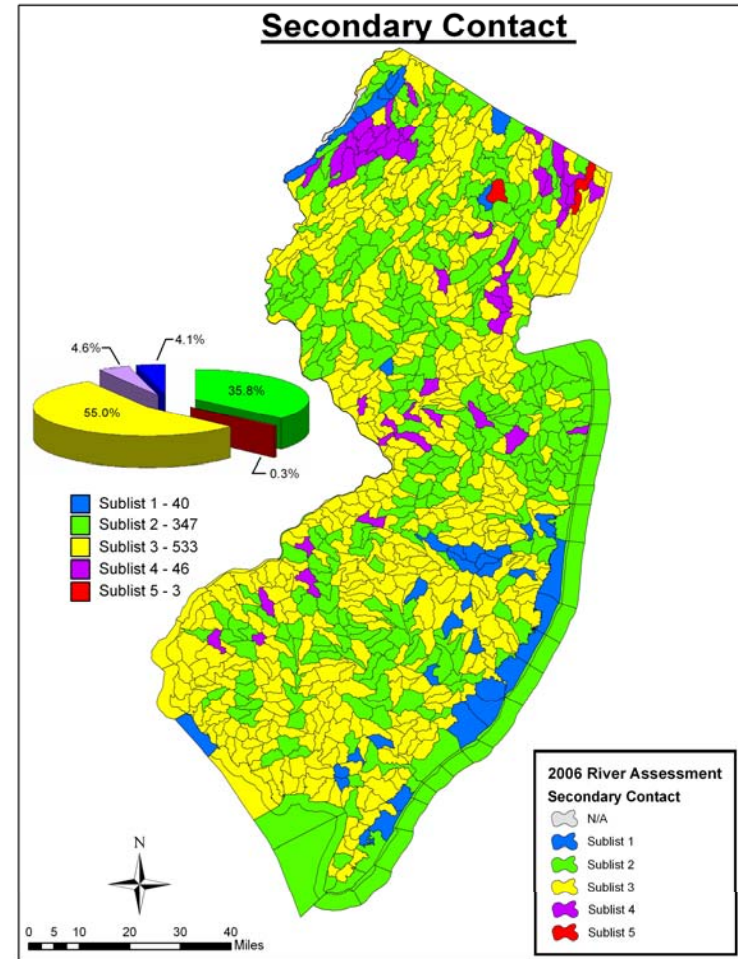


Recreational Use Attainment

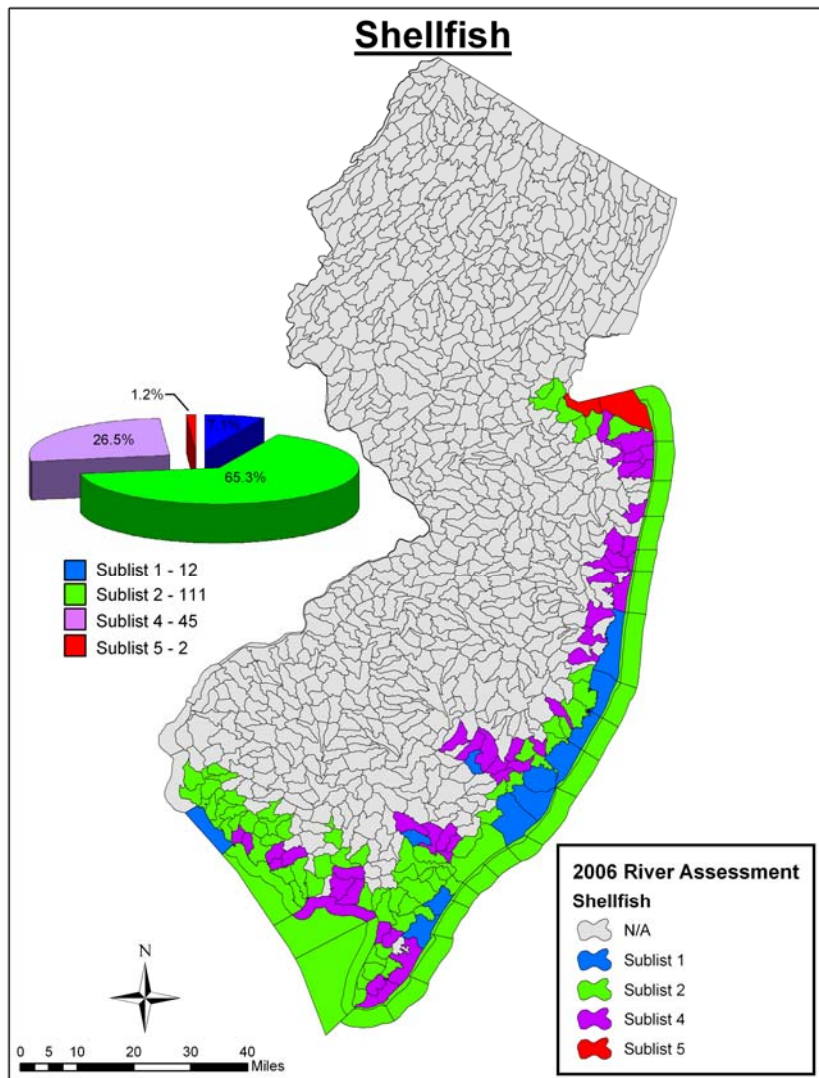
Primary Contact



Secondary Contact



Shellfish Harvest



Use applies to SE1 and SC waters

Not fully approved - nonattainment

Nonattainment based on fecal or total coliform and closure status under NSSP

If less than 10% area nonattainment - use full attainment

Fish Consumption

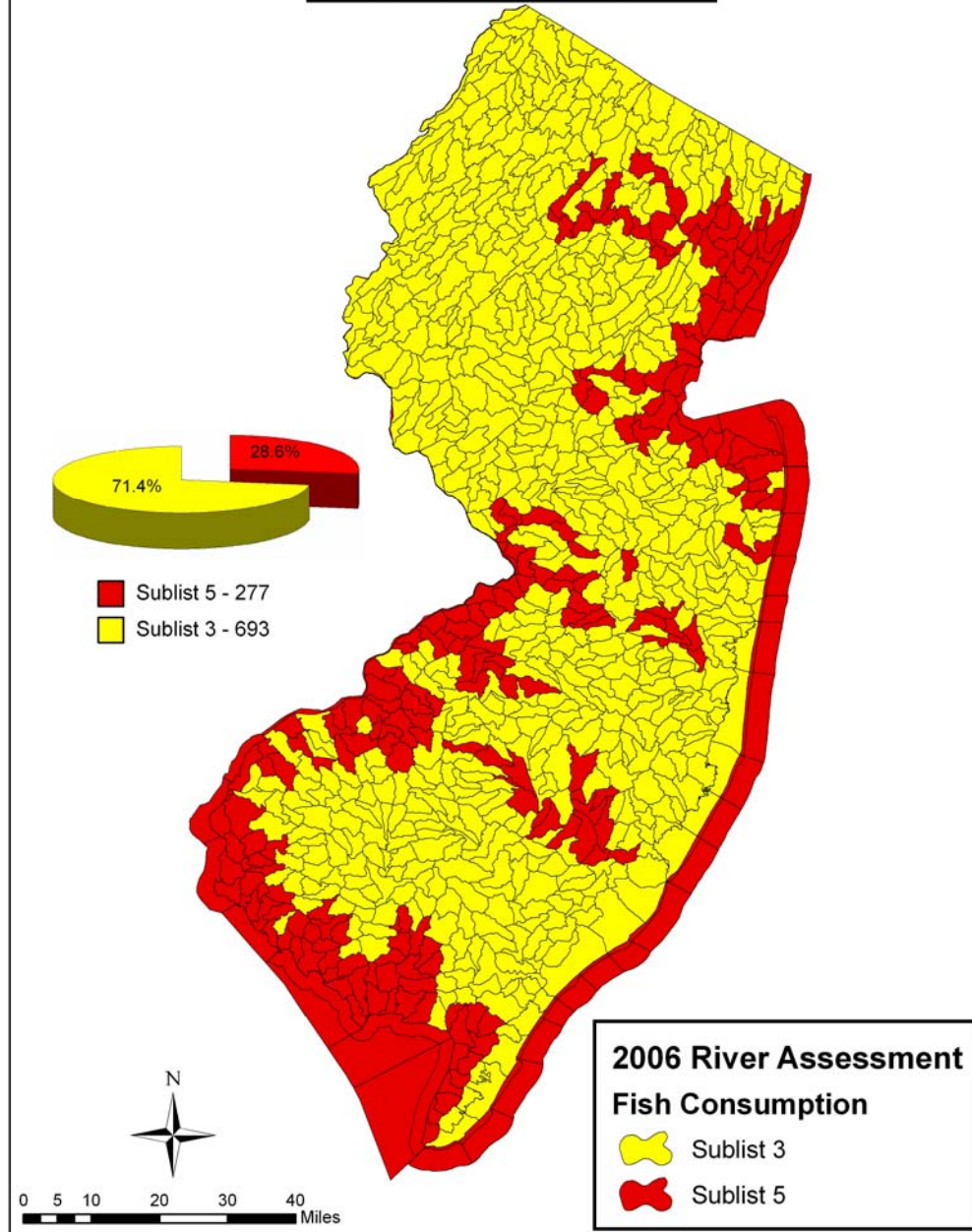


Based on waterbody
specific fish tissue
monitoring

Assessment extended
to HUC14s based on
fish mobility

If no tissue monitoring
then unassessed

Fish Consumption



Aquatic Life Assessment

Aquatic Life Use

General Aquatic life use

- Applies to all classifications

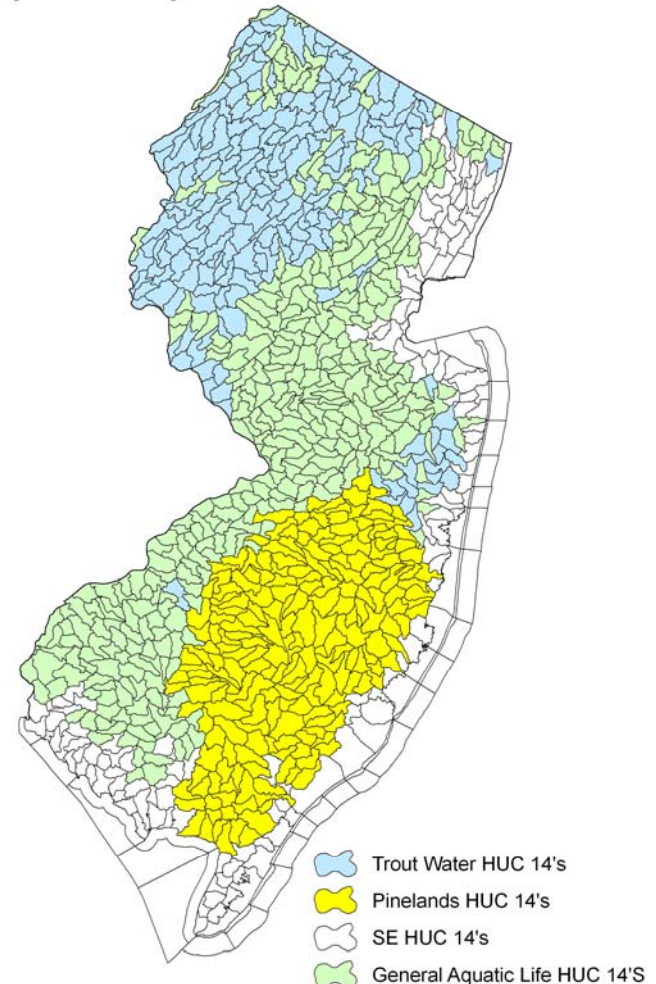
Pinelands

Aquatic Life Trout

- trout maintenance
- trout production

Lakes

Applicable Aquatic Life Use Assessment



FW2-Non-Trout Aquatic Life

Biological Data only

Full attainment

Non attainment: pollutant unknown

Chemical data only for Full Attainment

Must have: Temperature, DO, pH, Phosphorus, TDS and, TSS

Chemistry and biology data

No violations - Full attainment

Violations - nature conditions, or listed as pollutant or pollutant unknown



Pinelands Aquatic Life - PL

Current method uses Pinelands
Commission biological data

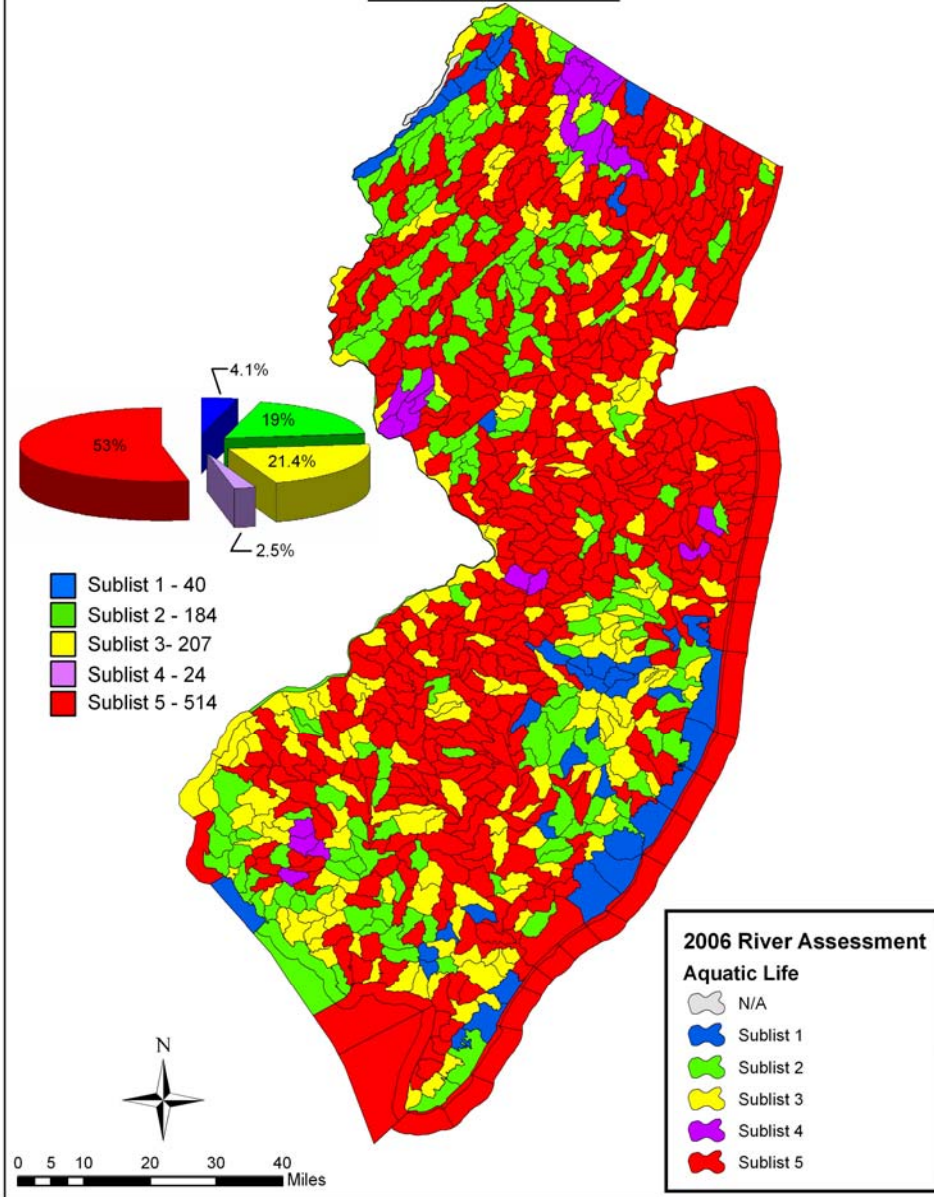
Assessments based on:

- stream vegetation,
- finfish,
- anuran assemblages
- along human disturbance gradients



Developing new benthic indicator for 2008

Aquatic Life

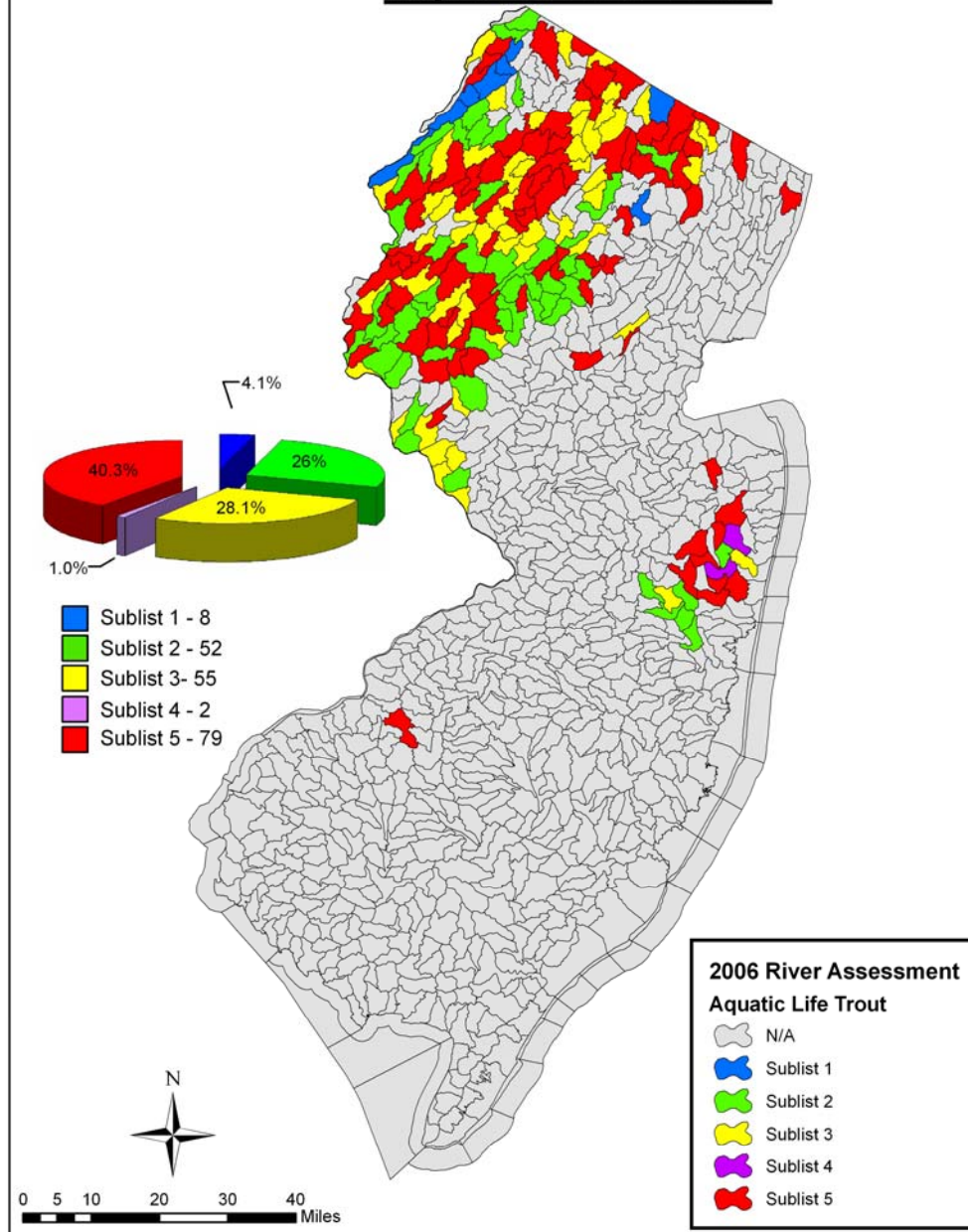


Trout Use - FW2-TP/TM

- Must have DO and temperature data and biology
- If non-attainment for General Aquatic life then Trout Use also non-attainment
- No violations - Full attainment
- Non attainment - list as Temperature, DO, pollutant, or pollutant unknown



Aquatic Life Trout



Lake - Aquatic Life Use

- | Fish Population sampled by DFW
 - Evaluate diversity of wide range of fish
 - Not just recreational species
- Physical-Chemical data required for Trout Lakes (TP/TM)
 - Temperature and DO



2006 Integrated List

2006 Schedule

June 2005 - Solicited water quality data

September 2005 - Published draft
Methods Document for comment

May 1, 2006 - Published draft 2006
Integrated List

May 31, 2006 - Comments due

September 2006 - Finalize 2006 List
and submit to EPA for approval

Designated Uses

Aquatic Life (General) - All Waters

Aquatic Life (Trout) – FW1&2, PL

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Secondary Contact Recreation - (All Waters)

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Agriculture Water Supply - FW2, PL,

Industrial Water Supply - FW2

Fish Consumption - All Waters

Shellfish Harvest - SC, SE1

Note: All Waters = FW1&2, PL, SC, SE1,2,&3

Sublists

Sublist 1: Sufficient data to assess all applicable designated uses and the assessment indicates full attainment for all designated uses.

Sublist 2: An assessment for an individual designated use indicates full attainment but other designated uses within the same waterbody are unassessed, impaired or have an approved TMDL. When all designated uses are assessed as full attain, these waterbodies will be moved to Sublist 1.

Sublist 3: Insufficient or no data to assess the designated use.

Sublist 4: Designated use indicates non attainment due to pollutants and a TMDL has been adopted in New Jersey Register and approved by the USEPA.

Sublist 5: Designated use indicates non attainment. The pollutant will be listed if known or as "pollutant unknown".

Note : See Section 7 of the Integrated List Methods Document for more detail on the Sublists

Waterbody Assessment

Hohokus Bk
(below Pennington Ave)

02030103140030-01

Aquatic Life (Gen)

Non Attain – Sublist 5

Aquatic Life (Trout)

N/A

Primary Rec

TMDL – Sublist 4

Secondary Rec

Full Attain – Sublist 2

Drinking Water

Not assessed – Sublist 3

Industrial

Not assessed – Sublist 3

Agricultural

Not assessed – Sublist 3

Shellfish

N/A

Fish Consumption

Not assessed – Sublist 3

Waterbody Assessment

Forked Brook/
Parker Brook

02040104140020-01

Aquatic Life (Gen)	Full Attain
Aquatic Life (Trout)	Full Attain
Primary Recreation	Full Attain
Secondary Recreation	Full Attain
Drinking Water	Full Attain
Industrial	Full Attain
Agricultural	Full Attain
Shellfish	N/A
Fish Consumption	Not assessed

Sublist 1

Wrap Up

What's next

- Filling the assessment gaps
 - Stresser Identification to identify pollutant where listed as “pollutant unknown”
 - Work with other groups to obtain data
 - Use new information tools to expand assessments
- Verification of impairments
- Prioritize impairments for TMDLs
- Review and modify SWQS

Questions and Suggestions